

Work Order ID 60707

Tuesday, July 20, 2010 8:09:21 AM



Page 1

Item ID: D2574

Accept



Setup Start



Revision ID:

Stop



Item Name: Saddle, Aft In 205

Start Date: 7/20/2010 Start Qty: 12.00



Cust Item ID:

Required Date: 7/26/2010 Req'd Qty: 12.00



Customer:

Reference:

Approvals:

Process Plan:

[Signature]

Date: 10-7-20

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr

Revision Nbr

D2574

Rev E

100

0.00



HAAS CNC VERTICAL MACHINING #1

HAAS I

Memo

0.00

HAAS CNC vertical machine #1

Program Batch No. 60707 Double check by *[Signature]* ☐ 1-Machine Step No 1 per Folio FA051 and inspect per attached Dimension Sheets 2-Machine Step No 2 per Folio FA051 and inspect per attached Dimension Sheets ☐ 3-Machine Step No 3 per Folio FA051 and insp

[Signature]

10/07/28

[Signature]
10/07/28

12 0

110

0.00



CONVENTIONAL MILLING MACHINE

Mill Conv

Memo

0.00

Conventional Milling Machine

Machine keyway as per dwg D2573 & D2574

[Signature]
10/07/28

12 0

[Signature]

120

QC2- Inspect parts off machine FAI/FAIB

0.00



QC

Memo

0.00

Quality Control

[Signature]
10/07/28


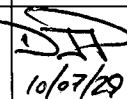
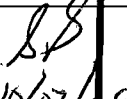
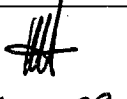
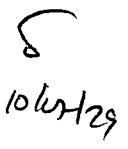
[Signature]
10/07/28

12 0

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D2574 PAR #: Fault Category: Machining NCR: Yes No DQA: Date: 100805
 Resolution: rework Disposition: rework QA: N/C Closed: ✓ Date: 10/08/06

NCR: <u>60707</u>		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
10/07/28	100	rougher tool was not out of holder by enough, holder hit piece with doing profile contour Qc: operator error / LOA upon set-up	 10.07.29	Corners are buff smooth accepted by engineering	 10/07/29	 10/07/29	 10.07.29	 10/07/29

NOTE: Date & initial all entries

Work Order ID 60707

Tuesday, July 20, 2010 8:09:21 AM



Page 2

Item ID: D2574

Accept



Setup Start



Revision ID:

Item Name: Saddle, Aft In 205

Stop



Start Date: 7/20/2010 Start Qty: 12.00



Cust Item ID:

Required Date: 7/26/2010 Req'd Qty: 12.00



Customer:

Reference:

Run Start



Approvals: Process Plan: Date: Tooling: Date:

QC: Date: SPC (Y/N): Date:

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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130



QC

Quality Control

QC8- Inspect parts - second check

0.00

Memo

0.00

B.A 10/08/02

12

0

140



HandFinish

Hand Finishing

Chemical Conversion Coat per QSI005 4.1

0.00

Memo

0.00

10 08 03 12

150



Powdercoat

Powder Coating

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00

Memo

0.00

M 11/4/841

START TIME: 3:00

11:50

FINISH TIME:

OVEN TEMPERATURE:

12:20

12 BR 10-8-4

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 60707

Tuesday, July 20, 2010 8:09:21 AM



Page 3

Item ID: D2574

Accept



Setup

Start



Revision ID:

Stop



Item Name: Saddle, Aft In 205

Start Date: 7/20/2010 Start Qty: 12.00



Cust Item ID:

Required Date: 7/26/2010 Req'd Qty: 12.00



Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run

Start



Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

160



QC

Quality Control

QC3- Inspect Part Finish

0.00

=> MU

10/08/04

X12

Ø

Memo

0.00

170



Packaging

Packaging

Identify as per dwg & Stock Location:

0.00

Memo

0.00

10/08/05 (12)

180



QC

Quality Control

QC21- Final Inspection - Work Order Release

0.00

Memo

0.00

10/08/05
MF
10-8-05

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Tuesday, July 20, 2010 8:09:25 AM

Page 1

Work Order ID: 60707

Parent Item: D2574

Parent Item Name: Saddle, Aft In 205


Start Date: 7/20/2010

Required Date: 7/26/2010

Start Qty: 12.00

Required Qty: 12.00

Comments: IPP Rev: I As Per RevE 06-01-27 JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D6101-005  Saddle Billet		Manufactured	No			110	Each	49.0000	1	12			

Location

Loc Qty

Loc Code

MAT46

49

46411

44

58676

5

7

5

MMF
10/07/28

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD	Work Order:	<i>020707</i>
Description: Saddle, Aft Inboard	Part Number:	D2574
Inspection Dwg: D2574 Rev. E		Page 1 of 1

Inspect dimensions highlighted on inspection sheet drawing D2574 Rev. E and record below:

Dim	Min	Max	Go/No Go Gauge	Recorded Actual Dimensions				By	Date
				1	2	3	4		
A	0.438	0.443		.441	.440	.440	.440	mmFol	vern
B	1.745	1.755		1.747	1.747	1.747	1.747	"	"
C	3.495	3.505		3.498	3.499	3.500	3.500	"	"
D	1.745	1.755		1.747	1.747	1.747	1.747	"	"
E	7.990	8.010		8.006	8.007	8.006	8.006	"	"
F	0.490	0.510		.496	.497	.496	.496	"	"
G	0.257	0.262		.261	0.260	0.260	0.260	"	"
H	0.375	0.380		.377	0.377	0.377	0.377	"	"
I	0.490	0.510		.499	0.499	0.498	.500	"	"
J	1.174	1.184		1.177	1.179	1.179	1.179	"	"
K	0.558	0.578		.569	0.565	0.564	.565	"	"
L	1.174	1.184		1.179	1.179	1.179	1.179	"	"
M	1.365	1.375		1.369	1.370	1.370	1.370	"	"
N	2.495	2.505		2.500	2.500	2.500	2.500	"	"
O	4.119	4.129		4.125	4.124	4.124	4.124	mmFol	vern
P	0.115	0.135		.127	0.125	0.125	0.125	118-120	micro
Q	0.115	0.135		.130	0.130	0.130	.130	mmFol	vern
R	0.240	0.260		.256	0.255	0.255	0.255	"	"
S	0.115	0.135		.120	0.128	0.129	.129	118-120	micro
T	0.178	0.198		.188	0.188	0.188	0.188	Rad gauge	
U	3.210	3.250		3.227	3.230	3.230	3.230	mmFol	vern
V	0.230	0.250		.235	0.238	0.240	.242	"	"
W	0.115	0.135		.132	.135	.135	.135	118-120	micro
X	0.307	0.312		.308	.309	.309	.309	mmFol	vern
Y	0.760	0.765		.760	.760	.760	.760	"	"
Z	0.352	0.372		.366	.367	.369	.370	"	"
AA	0.470	0.530		.500	0.500	0.500	0.500	Rad gauge	
AB	0.615	0.635		.623	.625	.625	.623	mmFol	vern
AC	0.053	0.073		.063	0.063	0.063	0.063	Rad gauge	
AD	0.240	0.260		.250	.250	.250	.250	mmFol	vern
AE	1.500	1.520		1.515	1.509	1.509	1.509	Has #2 / Dial Indic	
AF	0.115	0.135		.130	.130	.130	.135	mmFol	vern
AG	0.240	0.280		.260	.257	.260	.260	"	"
AH	0.240	0.260		.249	0.251	0.252	.253	"	"
AI	2.000	2.020		2.007	2.0025	2.002	2.002	Has #2 / Dial Indic	
AJ	0.023	0.043		.033	.033	.033	.033	mmFol	vern

Accept/Reject

Measured by: <i>mmFol</i> / <i>DIP</i>
Date: <i>10/07/28</i> / <i>10/07/29</i>

Audited by: <i>A.A</i>
Date: <i>10/08/02</i>

Rev	Date	Change	Revised by	Approved
A		New Issue	RF	
B	02.09.27	Re-format; Added Rev. D	KJ	
C	02.10.11	Re-format; Added DT8682, DT8683, DT8684	KJ	
D	05.05.05	Added dimension AI	KJ/RF	
E	05.12.05	Added dimension AJ	KJ/JLM	

W/O:			WORK ORDER CHANGES					
DATE	STEP		PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD	Work Order:	
Description: Saddle, Aft Inboard	Part Number:	D2574
Inspection Dwg: D2574 Rev. E		Page 1 of 1

Inspect dimensions highlighted on inspection sheet drawing D2574 Rev. E and record below:

				Recorded Actual Dimensions					
Dim	Min	Max	Go/No Go Gauge	5	6	7	8	By	Date
A	0.438	0.443		.440	.440	.440	.440	"	vern mF-02
B	1.745	1.755		1.747	1.747	1.747	1.747	"	" " "
C	3.495	3.505		3.497	3.497	3.498	3.498	"	" " "
D	1.745	1.755		1.747	1.747	1.747	1.747	"	" " "
E	7.990	8.010		8.006	8.005	8.005	8.006	"	" " "
F	0.490	0.510		.503	.501	.500	.500	"	" " "
G	0.257	0.262		0.260	.260	.260	.260	"	vern mF-02
H	0.375	0.380		0.377	.377	.377	.377	"	vern mF-02
I	0.490	0.510		.500	.4995	.500	.500	"	"
J	1.174	1.184		1.179	1.178	1.178	1.178	"	"
K	0.558	0.578		.567	.565	.566	.500	"	"
L	1.174	1.184		1.179	1.177	1.178	1.178	"	"
M	1.365	1.375		1.370	1.368	1.368	1.368	"	"
N	2.495	2.505		2.500	2.499	2.499	2.498	"	"
O	4.119	4.129		4.124	4.123	4.123	4.123	"	vern mF-02
P	0.115	0.135		0.124	.124	.125	.125	118-120	mF-02
Q	0.115	0.135		.135	.127	.130	.130	mF-02	vern
R	0.240	0.260		0.255	.252	.253	.254	"	"
S	0.115	0.135		.125	.125	.127	.126	118-120	micro
T	0.178	0.198		0.188	.188	.188	.188		Rad gauge
U	3.210	3.250		3.230	3.230	3.217	3.230		vern mF-02
V	0.230	0.250		.243	.240	.238	.240	118-120	micro
W	0.115	0.135		.135	.125	.135	.135	"	"
X	0.307	0.312		.309	.309	.308	.310	mF-02	vern
Y	0.760	0.765		.760	.760	.760	.760	"	"
Z	0.352	0.372		.361	.368	.367	.368	"	"
AA	0.470	0.530		0.500	.500	.500	.500		Rad gauge
AB	0.615	0.635		.625	.623	.623	.624	mF-02	vern
AC	0.053	0.073		0.063	.063	.063	.063		Rad gauge
AD	0.240	0.260		.250	.250	.250	.250	mF-02	vern
AE	1.500	1.520		1.508	1.508	1.508	1.510	Has #2	Dial Ind
AF	0.115	0.135		.135	.135	.135	.135	mF-02	vern
AG	0.240	0.280		.265	.250	.263	.260	"	"
AH	0.240	0.260		.253	.253	.251	.251	"	"
AI	2.000	2.020		2.003	2.003	2.003	2.003	Has #2	Dial Ind
AJ	0.023	0.043		.033	.033	.033	.033	mF-02	vern
Accept/Reject									

Measured by: DM / MM
Date: 10/07/29 / 10/08/01

Audited by: Y.A
Date: 10/08/02

Rev	Date	Change	Revised by	Approved
A		New Issue	RF	
B	02.09.27	Re-format; Added Rev. D	KJ	
C	02.10.11	Re-format; Added DT8682, DT8683, DT8684	KJ	
D	05.05.05	Added dimension AI	KJ/RF	
E	05.12.05	Added dimension AJ	KJ/JLM	

DART AEROSPACE LTD	Work Order:	
Description: Saddle, Aft Inboard	Part Number:	D2574
Inspection Dwg: D2574 Rev. E		Page 1 of 1

Inspect dimensions highlighted on inspection sheet drawing D2574 Rev. E and record below:

				Recorded Actual Dimensions					
Dim	Min	Max	Go/No Go Gauge	9	10	11	12	By	Date
A	0.438	0.443		.441	.440	.440	.440	mmF-02	Vern
B	1.745	1.755		1.747	1.747	1.747	1.747	"	"
C	3.495	3.505		3.500	3.500	3.500	3.500	"	"
D	1.745	1.755		1.747	1.747	1.747	1.747	"	"
E	7.990	8.010		8.006	8.005	8.006	8.005	"	"
F	0.490	0.510		.499	.500	.500	.500	"	"
G	0.257	0.262		.260	.260	.260	.260	"	"
H	0.375	0.380		.377	.377	.377	.377	"	"
I	0.490	0.510		.500	.499	.500	.500	"	"
J	1.174	1.184		1.176	1.176	1.176	1.176	"	"
K	0.558	0.578		.565	.569	.570	.570	"	"
L	1.174	1.184		1.176	1.176	1.176	1.176	"	"
M	1.365	1.375		1.369	1.369	1.369	1.370	"	"
N	2.495	2.505		2.499	2.500	2.500	2.500	"	"
O	4.119	4.129		4.124	4.124	4.124	4.124	"	"
P	0.115	0.135		.126	.126	.126	.127	118-120	Micro
Q	0.115	0.135		.135	.135	.135	.135	mmF-02	Vern
R	0.240	0.260		.253	.253	.254	.253	"	"
S	0.115	0.135		.128	.127	.130	.128	118-120	Micro
T	0.178	0.198		.188	.188	.188	.188		Rad gauge
U	3.210	3.250		3.229	3.229	3.229	3.229	mmF-02	Vern
V	0.230	0.250		.239	.240	.240	.240	"	"
W	0.115	0.135		.135	.135	.135	.135	118-120	Micro
X	0.307	0.312		.310	.310	.310	.310	mmF-02	Vern
Y	0.760	0.765		.760	.760	.760	.760	"	"
Z	0.352	0.372		.371	.372	.372	.372	"	"
AA	0.470	0.530		.500	.500	.500	.500		Rad gauge
AB	0.615	0.635		.624	.624	.624	.624	mmF-02	Vern
AC	0.053	0.073		.063	.063	.063	.063		Rad gauge
AD	0.240	0.260		.250	.250	.250	.250	mmF-02	Vern
AE	1.500	1.520		1.510	1.509	1.509	1.508	Haas #2 / Dial Ind	
AF	0.115	0.135		.135	.135	.135	.135	mmF-02	Vern
AG	0.240	0.280		.265	.270	.267	.270	"	"
AH	0.240	0.260		.252	.250	.253	.252	"	"
AI	2.000	2.020		2.003	2.002	2.002	2.003	Haas #2 / Dial Ind	
AJ	0.023	0.043		.033	.033	.033	.033	mmF-02	Vern
Accept/Reject									

Measured by: mmF
Date: 10/08/01

Audited by: H.A
Date: 10/08/02

Rev	Date	Change	Revised by	Approved
A		New Issue	RF	
B	02.09.27	Re-format; Added Rev. D	KJ	
C	02.10.11	Re-format; Added DT8682, DT8683, DT8684	KJ	
D	05.05.05	Added dimension AI	KJ/RF	
E	05.12.05	Added dimension AJ	KJ/JLM	

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY

SUBJECT TO AMENDMENT

WITHOUT NOTICE
WORK ORDER

NO. 60702

RELEASED

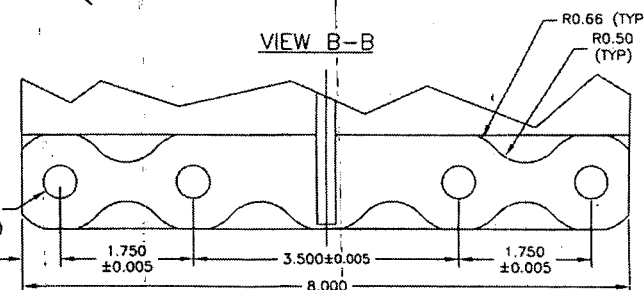
05.12.06

NOTES

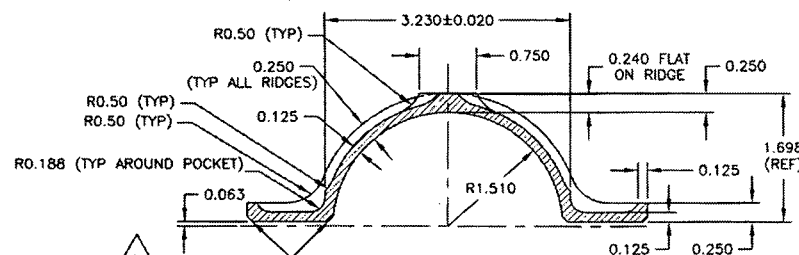
MATERIAL: 7075-T7351 (QQ-A-250/12)
(REF DART SPEC. 06102-003)
FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1
POWDER COAT GLOSS WHITE (REF 4.3.5.1) PER
DART QSI 005 4.3
BREAK ALL SHARP EDGES 0.010 TO 0.020
TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

- 1 ENGRAVE PART AND BATCH NUMBER IN THIS AREA TO MAX DEPTH OF 0.010
- 2 CHAMFER 0.063" x 45° AROUND THIS SURFACE (TYPICAL 2 PLACES)
- 3 CHAMFER 0.063 x 45° ALL AROUND
- 4 CHAMFER 0.033 x 45° (SEE DETAIL C) E

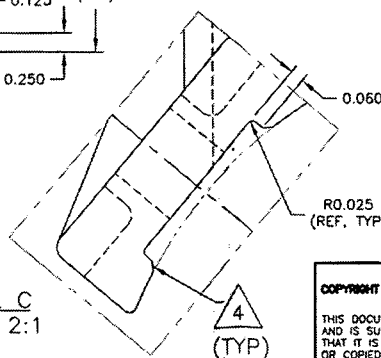
VIEW B-B



SECTION A-A



DETAIL C
SCALE 2:1



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DESIGN	DS	DRAWN BY	PH	DART	DART AEROSPACE LTD. MARKHAM, ONTARIO, CANADA
CHECKED	<i>[Signature]</i>	APPROVED	<i>[Signature]</i>	DRAWING NO.	02574
DATE	05.07.13	TITLE	INNER AFT SADDLE		
					REV. E SHEET 1 OF 1 SCALE 2:3

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries